

PNEUMATIC LOCKING SWIVEL CASTER
HS072402USNP

CLAIMS

WHEREFORE, I CLAIM

1. A caster for use on a theatre prop which comprises:

a first wheel; and

a device to lock the wheel;

wherein said device to lock the wheel is adapted to lock the wheel in position when said device is pressurized with a fluid.

2. The caster of claim 1 which further comprises a swivel bearing wherein the swivel bearing is configured to allow the wheel to swivel about a swivel axis.

3. The caster of claim 2 wherein said device to lock the wheel comprises:

a pneumatic cylinder;

a spring loaded pin; and

a brake disk wherein:

said pneumatic cylinder, said spring loaded pin and said brake disk are configured

such that said brake disk is pressed onto said wheel thereby locking said wheel

when said pneumatic cylinder is pressurized by said fluid.

4. The caster of claim 3 wherein said fluid is air.

5. The caster of claim 3 wherein the caster further comprises a mounting block wherein said mounting block is adapted to house said pneumatic cylinder.

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- 1 6. The caster of claim 5 wherein the height of said caster is in the range of 2 inches to 20
2 inches.
- 3 7. The caster of claim 5 wherein the height of said mounting block is in the range of 0.5 to 5
4 inches.
- 5 8. The caster of claim 5 wherein the mounting block comprises a mounting bolt hole and where
6 the diameter of the mounting bolt hole is about 5/16 of an inch.
- 7 9. The caster of claim 2 which further comprises a second wheel wherein said first wheel and
8 said second wheel are about the same size and shape and wherein said first wheel and said
9 second wheel are mounted next to each other.
- 10 10. The caster of claim 9 wherein the device to lock the wheel comprises a brake disk and
11 wherein said brake disk is adapted to press against said first wheel and said second wheel when
12 said device is pressurized by said fluid.
- 13 11. A caster which comprises:
- 14 three dual wheel swivel casters each comprising two wheels;
- 15 a caster plate assembly;
- 16 a pneumatic cylinder; and
- 17 a device to lock said wheels wherein:
- 18 each dual wheel swivel caster is mounted on the caster plate assembly;
- 19 the caster plate assembly is swivel mounted on the cylinder; and
- 20 the device to lock said wheels is adapted to lock said wheels.
- 21 12. The caster of claim 11 where the caster plate assembly comprises:
- 22 an upper plate;

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1 a lower plate; and

2 at least one stand off pin;

3 and where the device to lock the wheels comprises:

4 a pneumatic cylinder;

5 a press plate;

6 three brake disks;

7 three spring loaded pins; and

8 three extension pins;

9 wherein:

10 the upper plate is attached to the lower plate with the at least one stand off pin such that

11 there is a gap between the upper plate and the lower plate;

12 the press plate is mounted in said gap;

13 each one of the brake disks, each one of the spring loaded pins and each one of the

14 extension pins are mounted in each one of the dual wheel swivel casters such that the

15 brake disks will be pushed against the wheels when the press plate is pushed down;

16 and wherein the pneumatic cylinder is adapted to push the press plate down when the

17 pneumatic cylinder is pressurized thus locking the wheels.

18 13. A control system for operating a pneumatic locking swivel caster which comprises:

19 a high pressure gas supply;

20 an activation valve;

21 a first means to connect the high pressure gas supply to the activation valve; and

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1 a second means to connect the activation valve to a pneumatic locking swivel caster

2 wherein:

3 the high pressure gas supply, first means, activation valve and second means are
4 adapted to provide gas pressure to the pneumatic locking swivel caster in order to
5 lock the wheels of said caster when the activation valve is turned on.

6 **14.** A movable object which comprises:

7 a body; and

8 a pneumatic locking swivel caster wherein:

9 the pneumatic locking swivel caster is mounted on the body such that the object is
10 free to move when the pneumatic locking swivel caster is unlocked; and
11 wherein the object is locked into position when the pneumatic locking swivel
12 caster is locked.

13 **15.** The movable object of claim 14 wherein the body is a prop for a theatrical production.

14 **16.** The movable object of claim 14 where the pneumatic locking swivel caster is either a dual
15 wheel embodiment or a triple swivel caster embodiment.

16 **17.** The movable object of claim 16 where the prop is a piano, sofa, bed, or the like.

17 **18.** The movable object of claim 14 where the body is a scenery element for a theatrical
18 production.

19 **19.** A method for alternately moving and locking into position an object comprising a pneumatic
20 locking swivel caster, said method comprising:

21 moving the object when the pneumatic locking swivel caster is unlocked and locking the
22 object into position by locking the pneumatic locking swivel caster.

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20. The method of claim 19 where the object is locked into position by providing pressure to the pneumatic locking swivel caster.

21. A theatrical production which comprises props wherein at least one prop comprises a pneumatic locking swivel caster.

22. The theatrical production of claim 21 wherein the at least one prop is moved in one direction, locked into position and subsequently unlocked and moved in a second direction.

23. The theatrical production of claim 22 where in the first direction and the second direction are opposite.

24. A dual wheel embodiment of a pneumatic locking swivel caster which comprises:

a first wheel;

a second wheel; and

a device to lock the wheel;

wherein said device comprises a pneumatic cylinder and wherein said device unlocks the first and second wheels when said pneumatic cylinder is pressurized with a fluid.

25. A dual wheel embodiment of a pneumatic locking swivel caster which comprises:

a first wheel;

a second wheel; and

a device to lock the wheels;

wherein said device comprises an electric solenoid and wherein said device either locks or unlocks the first and second wheels when said electric solenoid is energized.